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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,512	02/06/2001	Mark Henry Hartmann	32819.830012.001	8432

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EXAMINER

EASHOO, MARK

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 07/02/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/777,512

Applicant(s)

HARTMANN ET AL.

Examiner

Mark Eashoo, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-28 is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☒ Claim(s) 12 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,6,7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Priority

The priority data listed on page 1 of the instant specification is incomplete. Accordingly, applicant is requested to update the priority data.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5, 6, 10 and 11 are rejected under 35 USC 102(b) as being anticipated by Salyer (US Pat. 4,908,166).

Regarding claim 1: Salyer teaches the claimed process for making polymer pellets containing a phase change material (3:8-33), comprising: melting a polymer (9:1-6); adding and dispersing a phase change material into the polymer (9:1-11); cooling (9:13-15); processing the mixture/blend of polymer and phase change material into pellets (9:13-21).

Regarding claim 3: Salyer further teaches 15-25% phase change material (9:11-13).

Regarding claims 5 and 6: Salyer further teaches low molecular weight polyethylene (9:10-11).

Regarding claim 10: Salyer teaches including a step of adding silica to prevent seepage (ie. to physically contain) of the phase change material (12:33-38).

Regarding claim 11: Salyer teaches extruding (9:2-5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 4, 7 and 8 are rejected under 35 USC 103(a) as being unpatentable over by Salyer (US Pat. 4,908,166) in view of Salyer (US Pat. 5,565,132).

Regarding claim 2: Salyer '166 teaches the claimed process for making polymer pellets containing a phase change material (3:8-33), comprising: melting a polymer (9:1-6); adding and dispersing a phase change material into the polymer (9:1-11); cooling (9:13-15); processing the mixture/blend of polymer and phase change material into pellets (9:13-21).

Salyer does not teach blending a second polymer with a solid formed from a mixture of a polymer and phase change material. However, Salyer '132 teaches a blending two polymers and a phase change material and forming pellets thereof (1:60-2:8 and 2:40-61). Salyer '132 and Salyer '166 are combinable because they are from the same field of endeavor, namely, processing polymers containing phase materials. Salyer '132 further teaches that these materials can be repeatedly thermocycled (2:1-8). Making material blends by mixing all the ingredients together or one or several at a time is well known in the art, in order to improve uniformity of the blend. At the time of invention a person of ordinary skill in the art would have found it obvious to have blended a second polymer with a solid formed from a mixture of a polymer and phase change material, as taught by Salyer '132, and mixed the ingredients one at a time, as commonly practiced in the art, in the process of Salyer '166, in order to incorporate a phase change material more uniformly throughout the final mixture. It is noted that the mixing of the ingredients one at a time applies to Salyer '166 alone as an alternative means of forming a blend/mixture.

Regarding claim 4: Salyer '166 further teaches 15-25% phase change material (9:11-13).

Regarding claims 7 and 8: Salyer '166 also teaches low, medium, and high molecular weight polyethylene (9:10-11). It is noted that the materials intrinsically have some affinity for the phase change

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material as the chemical structure of polyethylene and ethylene copolymers, both of which may be considered broadly as polyolefins, and the phase change material (ie. alkyl hydrocarbon) are similar.

Claim 9 is rejected under 35 USC 103(a) as being unpatentable over by Salyer (US Pat. 4,908,166) in view of Bryant et al. (US Pat. 4,756,958).

Salyer teaches the claimed process for making polymer pellets containing a phase change material (3:8-33), comprising: melting a polymer (9:1-6); adding and dispersing a phase change material into the polymer (9:1-11); cooling (9:13-15); processing the mixture/blend of polymer and phase change material into pellets (9:13-21).

Salyer does not teach microencapsulated phase change materials. However, Bryant et al. teaches microencapsulated phase change materials that are incorporated into a polymer melt (4:1-13). Salyer and Bryant et al. are combinable because they are from the same field of endeavor, namely, processing polymers containing phase materials. At the time of invention a person of ordinary skill in the art would have found it obvious to have used a microencapsulated phase change material, as taught by Bryant et al., in the process of Salyer, in order to incorporate a phase change material having desired temperature range (see Bryant et al. 3:65-69).

Prior art: Colvin et al., Salyer '160 and Salyer et al. all teach the basic state of the art.

Allowable Subject Matter

Claims 14-28 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art of record does not teach or render obvious forming a first blend, including a phase change material and low molecular weight polymer, into granules, then blending the granules with a high molecular weight polymer, and finally making pellets.

The examiner notes that the prior art does reasonably suggest using a first blend, comprising a mixture of polymers and a phase change material, in a process of forming a molded article (including pellets). A person of ordinary skill in the art would have found it an obvious alternative to make the

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mixture all at once or in a series of mixing steps. However, there is no general knowledge or evidence of record providing a motivation to form pellets of the type instantly claimed in claims 14 and 24.

Claims 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

The prior art of record does not teach or render obvious adding a phase change material wet cake to a melt and heating until a desired moisture content of the melt is reached.

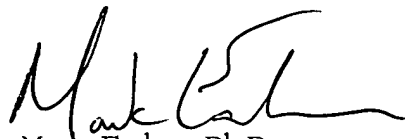
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Eashoo, Ph.D. whose telephone number is (703) 308-3606. The examiner can normally be reached on 7am-3pm EST, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Mark Eashoo, Ph.D.

Primary Examiner

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29/ Jun/03

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June 29, 2003